

REMARKS/ARGUMENTS

Claim 1 is amended to incorporate the limitation of the previously presented claim 17, which depended from claim 1. Claim 17 is now cancelled. Because claim 17 has been considered in the presently outstanding Office Action, the present amendment of claim 1 based on claim 17 does not require new consideration or new search. Entry of the above amendment is respectfully requested. Upon entry of the above amendment, claims 1-16 are pending in the subject application, with claim 1 being the only independent claim. Reconsideration of the subject application in view of the following remarks is hereby respectfully requested.

Double Patenting

Claims 1-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of the copending Application No. 10/574,026.

As noted above, the only independent claim 1 has now been amended by incorporating the limitation of the previously presented claim 17, which is not rejected on the ground of double patenting over any claim of the copending Application No. 10/574,026. Therefore, the double patenting rejection has become moot. Withdrawal of this rejection is respectfully requested.

Anticipation Rejection under 35 U.S.C. 102(e)

Claims 1-3, 8, 9, 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,717,353 to Mueller et al. ("Mueller"). Reconsideration and withdrawal of this rejection are respectfully requested.

Independent claim 1 recites, among other things, that the phosphor comprises less than 100 ppm tungsten impurity and less than 100 ppm cobalt impurity. The Examiner states: "Mueller discloses that the impurities (in general) should be less than 100 ppm". However, the

Examiner does not identify where Mueller provides such disclosure. *See* page 5, last paragraph of the Office Action. Applicant reviewed Mueller and did not find where Mueller discloses anything about the impurities or the content of tungsten or cobalt. Rather, it is the inventors of the present application that discovered the criticality of a low level of impurity of tungsten and cobalt. *See* paragraph 0018 of the present application as published. For at least this reason, claim 1 is not anticipated by Mueller under 35 U.S.C. 102(e).

Moreover, as explained in Applicant's previous response, the Examiners' reasoning that a narrower numerical range or a specific value is disclosed by a broader prior art range that encompasses the narrower range or specific value clearly violates well-established case law. *See, e.g.,* page 9, last paragraph of the Office Action. Based on the Examiner's reasoning, the so-called "selection invention" over a broad range of values known in the prior art would not exist, and yet it does! The Examiner is again respectfully referred to MPEP Section 2131.03 citing *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423 (Fed. Cir. 2006) wherein the court held that a reference temperature range of 100-500°C did not describe the claimed range of 330-450°C with sufficient specificity to be anticipatory.

Here, independent claim 1 recites a green-emitting LED which comprises, among other things, a layer of a phosphor. The phosphor belongs to a class of oxynitridosilicates, having a cation M and an empirical formula $M_{(1-x)}Si_2O_2N_2:D_y$, where D denotes a doping with divalent europium, where M comprises Sr as a constituent, and where $M = Sr \text{ alone or } M = Sr_{(1-x-y)}Ba_yCa_x$ with $0 \leq x+y < 0.5$ is used.

The Examiner points to col. 2, lines 16-23 of Mueller as disclosing the phosphor of present claim 1. *See* page 4, last paragraph. At col. 2, lines 16-23, Mueller discloses a luminescent material having the formula $(Sr_{1-a-b}Ca_bBa_c)Si_xN_yO_zEu_w$ ($a=0.002-0.2$, $b=0.0-0.25$,

c=0.0-0.25, x=1.5-2.5, y=1.5-2.5, z=1.5-2.5). This formula is different from the formula of the phosphor of claim 1 of the present application. For example, 1) Mueller fails to disclose that a value of 2 is selected for each of x, y, and z (i.e., the relative amount of Si, O, and N) in its formula to anticipate the amount of Si, O, and N recited in claim 1 of the present application for the phosphor; and 2) Mueller does not disclose that the total relative amount of the Eu and Sr (or Sr, Ba, and Ca) must be 1 to anticipate the amount of M and Eu as recited in claim 1 of the present application for the phosphor. Therefore, Mueller fails to disclose at col. 2, lines 16-23 the phosphor as defined in claim 1 of the present application. Furthermore, Applicants do not find that any other passages in Mueller disclose the phosphor as defined in claim 1 of the present application.

As explained above, it is well established in case law that a selection within a prior art range may still be patentable. A prior art reference merely disclosing a broad scope that encompasses a specific scope of a claim does not anticipate the claim.

For reasons expressed above, Mueller fails to disclose each and every element of claim 1 of the present application. Therefore, claim 1 of the present application is not anticipated by Mueller under 35 U.S.C. 102(e). For at least the same reasons, claim 2, 3, 8, 9 and 16, each of which depends from claim 1, are also not anticipated by Mueller under 35 U.S.C. 102(e). Withdrawal of the anticipation rejection is, therefore, respectfully requested.

Obviousness Rejections under 35 U.S.C. 103(a)

Claims 4-7, 10, and 13-15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Mueller in view of US Patent Appl. Pub. No. 2003/0094893 to Ellens et al. ("Ellens").

Ellens is cited to demonstrate that certain additional features recited in the dependent claims are known in the prior art. However, Ellens cannot remedy the deficiencies discussed above in connection with claim 1. Therefore, a combination of the primary reference Mueller with Ellens would not lead to the invention recited in any claim that depends from independent claim 1, such as claims 4-7, 10, and 13-15. Withdrawal of the obviousness rejection of claims 4-7, 10, and 13-15 over Mueller in view of Ellens is, therefore, respectfully requested.

Claim 11 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Mueller.

Claim 11 depends from claim 1 and recites that the LED is dimmable. The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made "that LED can be dimmable by reducing the current input, as in accordance to needs." As discussed above in connection with claim 1, Mueller does not disclose all the limitations of claim 1. Claim 11 depends from claim 1 and, therefore, incorporates all the limitations of claim 1. Therefore, even assuming *arugendo* that the Examiner's statement concerning the additional feature in dependent claim 11 is correct, claim 11 is still not obvious over Mueller for at least the same reasons discussed above in connection with claim 1.

Based on the foregoing, it is believed that the present application is in condition for allowance. Early and favorable consideration is respectfully requested.

Any fees or charges required at this time in connection with the present application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
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